

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>P2003, 0550WO</b>	<b>FOR FURTHER ACTION</b> see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. <b>PCT/EP2004/008909</b>	International filing date (day/month/year) <b>09/08/2004</b>	(Earliest) Priority Date (day/month/year) <b>27/08/2003</b>
Applicant <b>OSRAM OPTO SEMICONDUCTORS GMBH</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

## 1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☐ Certain claims were found unsearchable (See Box II).

3. ☐ Unity of invention is lacking (see Box III).

## 4. With regard to the title,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

## 5. With regard to the abstract,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

## 6. With regard to the drawings,

- a. the figure of the drawings to be published with the abstract is Figure No. 1d



as suggested by the applicant.



as selected by this Authority, because the applicant failed to suggest a figure.



as selected by this Authority, because this figure better characterizes the invention.

- b. ☐ none of the figures is to be published with the abstract.

International Application No

PCT/EP2004/008909

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 H01L51/20 H01L27/15

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 26, 1 July 2002 (2002-07-01) -& JP 2001 244073 A (FUJI ELECTRIC CO LTD), 7 September 2001 (2001-09-07) abstract; figures 1,5 paragraphs '0012!, '0014!, '0022! - '0024!	1-4,6-25
Y		5
X	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 14, 31 December 1998 (1998-12-31) -& JP 10 233286 A (SANYO ELECTRIC CO LTD), 2 September 1998 (1998-09-02) abstract; figures 1-6	1-4, 7-11,14, 16-18,20
Y		5
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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*Z\* document member of the same patent family

Date of the actual completion of the international search

25 January 2005

Date of mailing of the international search report

01/02/2005

Name and mailing address of the ISA

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II International Application No  
PCT/EP2004/008909

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 1996, no. 12, 26 December 1996 (1996-12-26) -& JP 08 222371 A (IDEMITSU KOSAN CO LTD); 30 August 1996 (1996-08-30) abstract; figures 1,3,5 paragraph '0019!	1-7
Y		5
X	US 5 804 917 A (TAKAHASHI HISAMITSU ET AL) 8 September 1998 (1998-09-08) column 3, lines 10-22 -----	16-18,20

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP2004/008909

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
JP 2001244073	A	07-09-2001	NONE	
JP 10233286	A	02-09-1998	JP 3485749 B2	13-01-2004
JP 08222371	A	30-08-1996	JP 3556990 B2	25-08-2004
US 5804917	A	08-09-1998	JP 3208638 B2	17-09-2001
			JP 8202287 A	09-08-1996
			DE 19603451 A1	01-08-1996
			GB 2297647 A , B	07-08-1996